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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,502	10/01/2003	Stephen D. Russell	95776	8232

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EXAMINER	
MENGISTU, AMARE	
ART UNIT	**PAPER NUMBER**
2673	

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/677,502	RUSSELL ET AL.
	Examiner	Art Unit
	Amare Mengistu	2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-15 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-15 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-13,15 are rejected under 35 U.S.C. **112, first paragraph**, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification **as originally filed** has failed to disclose the recitation of the claim 1 the last 2 lines "***plurality of pixels are arranged on each of said display regions and said display regions are superimposed upon each other to create a one-to-one correspondence between pixels on said superimposed display regions***". The disclosure as originally filed has failed to teach one skill in the art how to make or use the plurality of pixels arrangement as claimed.

The specification as originally filed has also failed to disclose "***an optical detector for measuring said light focused by said imaging optics***" as recited in claim 15.

3. Claims 1-13 are rejected under 35 U.S.C. **112, first paragraph**, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification has failed to provide support for the recitation of claim 1, "***A reconfigurable liquid crystal display*** *comprising:* ***a polarizer****...* *a* ***plurality of liquid crystal display****...* ***an analyzer****...,* ***a means*** *...to reconfigure at least one of said liquid crystal display regions".* In claims 3-5,12 "***a gray scale control***", in claims 6 and 7 " ***transparent substrate"; "transparent pixel electrodes***", in claim 11 "***programmable driver and interface circuit".***

The disclosure does not describe in the specification in such a way to enable one skill in the art how reconfigure a liquid crystal display including *a polarizer..., a plurality of liquid crystal display...; an analyzer..., and a means monolithically... to reconfigure at least one of said liquid crystal display regions, a gray scale control, transparent substrate"; "transparent pixel electrodes", "programmable driver and interface circuit...*

Instead the specification teaches how to reconfigure the liquid crystal display by using a software program (see, pages 11-12, figs.7 and 8), but never state using a *polarizer. a plurality of liquid crystal display... an analyzer..., a means monolithically.*

Furthermore, the specification does not provide support for the recitation of claim 1 the last two lines "***a means monolithically formed adjacent to at least one of said liquid crystal display regions to reconfigure at least one of said liquid crystal display regions***".

The specification also has failed to provide support for the recitation of claim 3 "***a gray-scale control operable coupled to each of said pixels for varying said polarization angle***". The disclosure as filed does not teach that the gray scale control for varying polarization angle. On page 4, lines 17-19 of the specification states "Each pixel in the sequence may be independently programmed or reconfigured to vary the angle of the polarization axis for calibrating the display to a standard gray-scale and for correcting faulty pixels with VSLI on-chip driver and interface circuit". There no where in the specification could be found that the ***a gray-scale control operable coupled to each of said pixels for varying said polarization angle.***

1. Claims 1-12, are rejected under 35 U.S.C. **112, second paragraph**, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase of claim 1, the last 2 lines "***a means monolithically formed adjacent to at least one of said liquid crystal display region***" is not clear. What is being formed adjacent to the liquid crystal display region is not clear.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Applicant's Admitted Prior Art** [figs.1-3].

As to claims 1,9,10 **Applicant's Admitted Prior Art** disclose a liquid crystal display comprising: a light source (figs. 1-3 (22)); a polarizer (figs. 1-3 (16)) for coupling to a beam (figs.1-3 (22)); a plurality of liquid crystal display (figs. 1-3 (10)); an analyzer (figs. 1-3 (17)), a means monolithically formed adjacent to at least one of said liquid crystal display (figs.1-3 (12) transparent electrode as best understood) and pixels are formed in an active matrix liquid display (see, page 2, [0004] and [0005], page 11[0031]), means for applying and fixing a first voltage to the pixels (see, figs 1-3 (18) V); providing a means to control gray scale on said plurality of liquid crystal display region (see, page 6 [0018]) present in claim 14,, as recited in claim 9; and wherein the liquid crystal material is one of nematic, supertwisted nematic or ferroelectric liquid crystals (see, page 6,"FLC" [0018]) as recited in claim 10.

Applicant's Admitted Prior Art has failed to teach how to reconfigurable liquid crystal display however, one skill in the art can recognized the broadest interpretation of the claim language that in MOS technologies can be used for LCD in a very large scale (see, page 2 [0004] – page 3 [0007]).

As to claim 13 **Applicant's Admitted Prior Art** teaches LCD device including a first and a second liquid crystal regions (see, figs.1-3 the front and the back side of (10)) having a plurality of pixels arrayed (figs. 1-3 (14)); a means of applying and fixing a second voltage to the pixels of said at least one secondary liquid crystal display region (page 6, [0018] clearly states " *voltage V is varied to vary the rotation of the polarization axis of the light from the source*" by varying voltage V you can have a second voltage).

It is obvious that the plurality of pixel arrays are arranged one each of said display regions (12) and said display regions are superimposed upon each other to create a one-to-one correspondence.

In regarded to claim 14, **Applicant's Admitted Prior Art** teaches LCD display having a polarizer (figs. 1-3 (16)); providing a plurality of collinearly arranged liquid crystal display regions (figs. 1-3 (10)); each of said liquid crystal display region including a plurality of pixels (14) configured in two dimensional array in the plane of said liquid crystal display region; providing an analyzer (17) operable coupled to said liquid crystal display regions (10) and said polarizer (16) and a providing a means to control gray scale on said plurality of liquid crystal display regions (see, page 6 [0018]).

Applicant's Admitted Prior Art did not explicitly disclose orienting each liquid crystal display region so that each pixel in the array has a one to one correspondence with a pixel on an adjacent liquid crystal display region. However; it would have been obvious to one skill in the art to have each pixel to have one to one corresponds with another LCD which is adjacent to each other, since this is an engineering choice of design to adding one more LCD device.

As to claim 2, **Applicant's Admitted Prior Art** teaches an array of pixel sequences arranged into rows and columns (figs. 1-3 (14)) operably coupled to said polarizer (figs. 1-3 (16)), said beam of polarized light (fig.1-3 (22)) and said analyzer (figs. 1-3 (17)).

As to claims 3,12, Applicant's Admitted Prior Art discloses a liquid crystal display regions includes control of the gray-scale intensity of the transmitted light through at leas two collinear pixel on at least two liquid crystal display regions (see, page 6 [0018]).

As to claims 4 and 5, Applicant's Admitted Prior Art also teaches said gray scale control includes a monolithically fabricated electronically programmable driver and interface circuitry for calibrating said pixel sequence to a gray scale stander (

In regarded to claims 6,7, Applicant's Admitted Prior Art also teaches a transparent substrates (figs1-3 (10)) it is obvious that the LCD 10 has a transparent substrate); a transparent pixel electrodes (figs.1-3 (12)); and LCD (figs. 1-3 (10)).

As to claim 8, Applicant's Admitted Prior Art's LCD (figs.1-3 (10)) inherently teaches having a substrates, but has failed to explicitly disclose the substrate to include a sapphire. However, this is an engineering choice of design for a LCD system to use any type of chemical to use in the substrate including a sapphire depending upon the individual preference and choice.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Applicant's Admitted Prior Art (figs. 1-3)** in view of **Evanicky et al (6,611,249)** .

In regarded to claim 15, furthermore, **Applicant's Admitted Prior Art** also teaches a light source (figs.1-3 (22)); an intensity homogenizing and projection optics operably coupled to said light source for transmitting a uniform beam of light to said liquid crystal display (figs. 1-3 (16)); imaging optics for focusing said light passed by said liquid crystal display (figs.1-3 (12)), programming electronics operably coupled to said optical detector (see, page 9, lines 1-6); a means for setting gray scale values on individual pixels of said LCD (see, page 6 [0018]). **Applicant's Admitted Prior Art** has failed to teach an optical detector for measuring said light. However, the patent of Evanicky **et al** clearly teaches that it is well known for LCD display to detect the light (fig.9 (800b), col.4, lines 18-36,col.12, lines 38-55,col.13, lines 3-44).

Therefore, it would have been obvious to one skill in the art at the time of the invention was made to have been motivated to incorporate the light detector of **Evanicky et al** into the device of **Applicant's Admitted Prior Art, because this an advantage to adjust the temperature of the display by detect the light provided by the back light.**

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amare Mengistu whose telephone number is (703)305-4880. The examiner can normally be reached on M-F,T-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (703)305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Amare Mengistu
Primary Examiner
Art Unit 2673

A.M

August 6,2004